



AFCTN Test Report 94-089

AFCTB-ID
94-047



Technical Publication Transfer Using:

O'Neil & Associates, Inc. Data
Supporting:



ESC/MSL MILSTAR Program
TO 12R2-2A-1664

(Contract #F19628-89-C-0131)

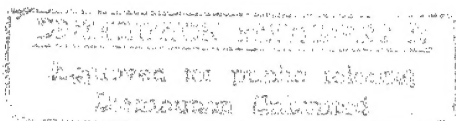


MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)



Quick Short Test Report

16 May 1994



19960822 103



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

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Using:

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(Contract #F19628-89-C-0131)

MIL-D-28000A (IGES)

MIL-M-28001B (SGML)

MIL-R-28002A (Raster)

Quick Short Test Report

16 May 1994

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Air Force CALS Test Bed

Notification of Test Results

16 May 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

O'Neil & Associates, Inc.

Identified as follows:

Title:	Technical Publication Transfer, TO 12R2-2A-1664
Program:	MILSTAR
Program Office:	ESC/MSL
Contract No.:	F19628-89-C-0131
QSTR No.:	AFCTB-ID 94-047

Received on the following media: **9-track magnetic tape**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	Pass
MIL-STD-1840A Media Format:	Pass
MIL-D-28000A IGES:	Pass
MIL-M-28001B SGML:	Pass
MIL-R-28002A Raster:	Pass
MIL-D-28003 CGM:	N/A

Formal results with associated disclaimer are documented and available from the AFCTB.

**Air Force CALS Test Bed
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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze O'Neil & Associates' interpretation and use of the CALS standards in transferring technical publication data. O'Neil used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 94-047

Date of
Evaluation: 16 May 1997

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data
Originator: Larry C. McKinley
O'Neil & Associates, Inc.
425 North Findley Street
Dayton OH 45404-2203
(513) 461-1852

Data
Description: Technical Manual Test
1 Document Declaration file
4 Document Type Definitions (DTDs)
20 Initial Graphics Exchange Specification
(IGES) files
1 Text/Standard Generalized Markup Language
(SGML) file
2 Raster files

Data
Source System:

1840

HARDWARE

386 PC

SOFTWARE

AFCTN Tapetool v1.2.10

IGES

HARDWARE

Xerox 7650 Pro Imager
Xerox 6085 Workstation

SOFTWARE

Xerox Expert Drafting v5.0
Conversion of IGES files v5.1
Xerox XTI v2.2
Xerox XPI Image Conversion v2.6

Text/SGML

HARDWARE

386 PC

SOFTWARE

WordPerfect Intellitag v1.2
Exoterica Validator v1.1

Raster

HARDWARE

HP Apollo 425T

SOFTWARE

Auto-trol CCITT Gp4 Converter

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.10 UNIX
XSoft CAPS/CALS v40.4

MIL-D-28000 (IGES)

SGI Indigo2

IGES Data Analysis (IDA) CALSView

Sun SparcStation 2

ArborText iges2draw

Carberry CADLeaf Plus v3.1

IDA Parser/Verifier v92

IDA IGESView v3.05

International TechneGroup Incorporated
(ITI) IGES/Works v1.3

Rosetta Technologies Prepare

Rosetta Technologies Preview v3.2

PC 486/50

IDA IGESView Windows

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText ADEPT v4.2.1

PC 486/50

Exoterica XGMLNormalizer v1.2e3.2

Exoterica Validator v2.0 exl

McAfee & McAdam Sema Mark-it v2.3

Public Domain sgmls

MIL-R-28002 (Raster)

HP 735

AFCTN *xrastb.hp*

InterCAP *X-Change v7.82*

SGI Indigo2

IDA *CALSVIEW*

SUN SparcStation 2

ArborText *g42tiff*

Carberry *CADLeaf Plus v3.1*

AFCTN *validg4*

AFCTN *xrastb.sun4*

IDA *IGESView v3.0*

Island Software *IslandPaint v3.0*

PC 486

IDA *IGESView Windows*

Inset Systems *HiJaak Pro*

Expert Graphics *RxHighlight v1.0*

**Standards
Tested:**

MIL-STD-1840A

MIL-D-28000A

MIL-M-28001B

MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.10 utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors. However, this utility process resulted in the loss of three of the four DTDs. This occurred because the four DTDs had identical destination system document (dstdocid) record values and the *CAPS read1840A* utility renames the files using the dstdocid record values. (MIL-STD-1840A permits identical dstdocid values for multiple files; MIL-STD-1840B corrected this problem).

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file and data file headers. This portion of the tape meets the CALS MIL-STD-1840A requirements.

4. IGES Analysis

The tape contained 20 IGES files. These files were evaluated using IDA's *parser/verifier* set for CALS Class I. This utility reported that all files meet the specification defined in MIL-D-28000A. While no CALS errors were reported, all files had reported basic IGES errors and/or warnings. These deficiencies were line segments not jointed, or disjointed arcs. When viewed in a technical publication, these were not apparent. When areas were examined in detail, these areas could be seen. In some cases these disjointed lines were thickened to hide the gaps and overlapping arcs.

The required conformance statement was found in the Start section of the files.

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

Each file was viewed by at least one software application. The most noticeable problem was the added arrowheads. Many of the leader lines had entities added to make the arrowhead. At the same time, the basic leader line was thickened. This made the arrowhead look different than the rest of the lines. Samples of these arrowheads are included in the Appendix of this report. The log files from IDA's *parser* and ITI's *IGESWorks* for file D001Q014 are also included in the Appendix of this report.

The files were converted using ArborText's *iges2draw* utility with no reported errors. The resulting files were read into Island Software's *IslandDraw*, displayed and printed without a reported error.

The files were read and displayed using Carberry's CADLeaf software without a reported error.

The files were read and displayed using IDA's CALSView without a reported error.

The files were read and displayed using IDA's IGESView and IGESView for Windows without a reported error.

The files were read and displayed using InterCAPS's X-Change without a reported error.

The files were read and displayed using ITI's IGESWorks without a reported error.

The IGES files were converted using Rosetta Technologies' Prepare without a reported error. The resulting files were read into Rosetta Technologies' Preview, displayed and printed.

The IGES files meet the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained four DTDs and one text files. The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or text files required by each system are not documented in the report.

The text and DTD files were evaluated using the Exoterica Validator exl parser. One warning was issued for a mixed content model.

```
<!-- **Warning** in "i:\94047\BSPEC.DTD" (entity "%BSPEC"), line 1,
      used in "\xgml\9447.dtd", line 1:
      An element with mixed content should permit data characters ("#PCDATA")
      everywhere.
      The element being declared is "WARNING".
```

```
<!ELEMENT warning - - (title?, (%txt; | para | list)+) >
<!ATTLIST warni
-->
<!-- 1 warning reported. -->
```

The text and DTD files were tested using the Exoterica *XGMLNormalizer* parser. No errors or warnings were issued by this utility.

The text and DTD files were evaluated using McAfee & McAdam's *Sema Mark-it v2.3* parser. No errors or warnings were issued by this utility.

The text and DTD files were evaluated using the Public Domain *sgmls* parser. No errors or warnings were issued by this program.

The DTD and text files meet the CALS MIL-M-28001B specification.

6. Raster Analysis

The tape contained two Raster files. All files were evaluated using the AFCTN *validg4* utility. This program reported both files meet the CALS MIL-R-28002A specification.

The files were read into the AFCTN *xrastb.sun4* viewing utility. No problems were noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using ArborText's *g42tiff* utility without a reported error. The resulting files were read into Island Software's *IslandPaint* and displayed.

The Raster files were read into Carberry's *CADLeaf* software and displayed without a reported error.

The files were read using IDA's *CALSVIEW* and displayed without a reported error.

The files were read into, and displayed using IDA's *IGESVIEW* and *IGESVIEW for Windows* without a reported error.

The files were read into, and displayed using Inset Systems' *HiJaak for Windows* without a reported error.

The files were read and displayed using InterCAP's *X-Change*.

The Raster files were converted using Rosetta Technologies' *Prepare* without a reported error. The resulting files were read into Rosetta Technologies' *Preview* and displayed.

The Raster files were imported into Expert Graphics' *Rx-Highlight* and displayed without a reported error.

The Raster files meet the CALS MIL-R-28002A specification.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included in this evaluation.

8. Conclusions and Recommendations

The tape from O'Neil & Associates, Inc. was correct. The physical structure of the tape had no reported errors or warnings. The CALS structure was also correct. The tape meets the requirements defined in MIL-STD-1840A.

The IGES files had no reported CALS errors. All files had reported basic IGES errors and/or warnings. These errors are not critical for files used in technical publications. The IGES files meet the CALS MIL-D-28000A specification.

The DTD and text files had no reported errors and meet the CALS MIL-M-28001B specification.

The Raster files meet the CALS MIL-R-28002A specification.

The tape submitted by O'Neil & Associates, Inc. meets the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon May 16 12:02:04 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set071

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001G001	DTD	D/00260	02048/000008	Extracted
D001G002	DTD	D/00260	02048/000002	Extracted
D001G003	DTD	D/00260	02048/000002	Extracted
D001G004	DTD	D/00260	02048/000002	Extracted
D001Q005	IGES	F/00080	02000/000308	Extracted
D001Q006	IGES	F/00080	02000/000717	Extracted
D001Q007	IGES	F/00080	02000/000648	Extracted

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

D001R025	Raster	F/00128	02048/000022	Extracted
D001R026	Raster	F/00128	02048/000024	Extracted
D001T027	Text	D/00260	02048/000100	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon May 16 11:56:24 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ONA001

4

Label Identifier: VOL1
Volume Identifier: ONA001
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

<<<< PART OF LOG FILE REMOVED HERE >>>>

***** Tape Mark *****

End of Volume ONA001

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Mon May 16 12:02:04 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set071

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: O'Neil & Assoc. CAGE 83007

srcdocid: TO 12R2-2A-1664

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19940512

dstsys: RAYTHEON CAGE 49956

dstdocid: TO 12R2-2A-1664

dstrelid: NONE

dtetrm: 19940512

dlvacc: NONE

filcnt: G4,Q20,R2,T1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Technical Publication

doctl: NONE

Found file: D001G001

Extracting DTD Header Records...

Evaluating DTD Header Records...

srcdocid: TO 12R2-2A-1664

dstdocid: TO 12R2-2A-1664

notes: DTD, 1 of 4

Saving DTD Header File: D001G001_HDR

Saving DTD Data File: D001G001_DTD

Found file: D001G002

Extracting DTD Header Records...

Evaluating DTD Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
notes: DTD, 2 of 4

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001G003
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
notes: DTD, 3 of 4

Saving DTD Header File: D001G003_HDR
Saving DTD Data File: D001G003_DTD

Found file: D001G004
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
notes: DTD, 4 of 4

Saving DTD Header File: D001G004_HDR
Saving DTD Data File: D001G004_DTD

Found file: D001Q005
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
txtfilid: W
figid: 1
srcgph: M01B01
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q005_HDR
Saving IGES Data File: D001Q005_IGS

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Found file: D001R025
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
txtfilid: W
figid: HOW-TO-USE-1
srcgph: HOW2IPB1
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002097,002560
rdensty: 0300
notes: NONE

Saving Raster Header File: D001R025_HDR
Saving Raster Data File: D001R025_GR4

Found file: D001R026
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
txtfilid: W
figid: HOW-TO-USE-2
srcgph: HOW2IPB2
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002097,002568
rdensty: 0300
notes: NONE

Saving Raster Header File: D001R026_HDR
Saving Raster Data File: D001R026_GR4

Found file: D001T027
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: TO 12R2-2A-1664
dstdocid: TO 12R2-2A-1664
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D001T027_HDR
Saving Text Data File: D001T027_TXT

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

9.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001' ---  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
TO12R22A1664.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
TO12R22A1664.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
TO12R22A1664.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
TO12R22A1664.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
M01B01.Q.igs'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
M01B59.Q.igs'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
M01B79.Q.igs'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
M01B62.Q.igs'.
```

<<<< PART OF LOG FILE REMOVED HERE >>>>

```
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
HOW2IPB1.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
HOW2IPB2.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb9447/TO12R2-2A-1664/  
W.T.sgm'.  
-- declaration file indicates 1 files of type T  
-- declaration file indicates 4 files of type G  
-- declaration file indicates 0 files of type H  
-- declaration file indicates 20 files of type Q  
-- declaration file indicates 2 files of type R  
-- declaration file indicates 0 files of type C  
-- declaration file indicates 0 files of type X  
-- declaration file indicates 0 files of type P  
-- declaration file indicates 0 files of type Z
```

10. Appendix B - Detailed IGES Analysis

10.1 File D001Q014

10.1.1 Parser/Verifier Log

```
*****
****  IGES PARSER/VERIFIER  ****
****      MARCH 1993      ****
****  IGES Data Analysis  ****
****      (708) 344-1815  ****
*****
```

Input file is q014.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is May 16, 1994 1:14 PM

```
*****
****  CHECK FILE SYNTAX  ****
*****
```

Section	Records
Start	5
Global	3
Directory	5142 (2571 Entities)
Parameter	3950
Terminate	1

No syntax errors detected.

```
*****
****  SUMMARY AND STATISTICS  ****
*****
```

*** File and Product Name Information ***

```
File name from sender      = 'M01B.67.dwg'
File creation Date.Time    = '940325.083922'
Model change Date.Time     = ''
Author                     = 'Brian Keefe'
Department                  = ''
Product name from sender   = 'Xerox Expert'
Destination product name   = ''
```

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'Xerox Expert version 5.0'
Preprocessor version = '5.0'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 16
Floating point - Exponent = 38 Mantissa = 7
Double precision - Exponent = 38 Mantissa = 7

*** Global Model Data ***

Model scale = 1.0000E+00
Unit flag = 1
Units = 'INCH'
Line weights = 3
Maximum line thickness = 4.166667E-02
Minimum line thickness = 1.388889E-02
Granularity = 1.000000E-05
Maximum coordinate = 1.100000E+01

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	2571
	Blanked	0
Independence:	Independent	2374
	Physically Subordinate	195
	Logically Subordinate	2
	Totally Subordinate	0
Entity use:	Geometry	2523
	Annotation	45
	Definition	2
	Other	1
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0

Hierarchy: Structure DE applies 2571
 Subordinate DE applies 0
 Hierarchy property applies 0
 Not Specified 0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	----	-----	-----	----
100	0	0	105	Circular arc
102	0	0	39	Composite curve
104	1	0	615	Conic arc - ellipse
110	0	0	1110	Line
124	0	0	615	Transformation matrix
212	0	0	45	General note
230	0	0	39	Sectioned area (Standard Crosshatching)
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	2571

*** Labeling Information ***

100% of the entities are labeled.

Unlabeled 0

Label	Count	Label	Count	Label	Count
View	1*	Line	1110*	Matrix	615*
Ellipse	615*	GNote	45*	Arc	105*
Composit	39	Section	39*	Property	1
Drawing	1*				

NITPICK 2327: One or more of the flagged entity labels are not right-justified.

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
100	39	606	-	-	1023	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
2	-	4	-	-	47	-	-	Center-line
3	-	5	-	-	40	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	615	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1342	(0.0139)
1	741	(0.0139)
3	195	(0.0417)
2	293	(0.0278)

*** Colors Used in Data ***

Defaulted	696
Green	1875

***** ENTITY ANALYSIS *****

*** Entity type: 100

*** Entity type: 102

ERROR 2033: End points of curves D 4647 and D 4649 disjoint by
9.461526E-02 at D 4653.
NOTE 2391: Start point D 4647 and D 4649 are the same, possible reversal
of D 4649.
ERROR 2033: End points of curves D 4649 and D 4651 disjoint by
5.188529E-02 at D 4653.
5.188526E-02 at D 4701.
ERROR 2033: Messages regarding disjoint composite curves suppressed.
NOTE 2391: Messages regarding reversed entities suppressed.

*** Entity type: 104

WARNING 2265: Start point off conic by 6.285191E-05 at D 49.
WARNING 2039: End point off conic by 6.391191E-05 at D 49.
WARNING 2265: Start point off conic by 2.278815E-05 at D 53.
WARNING 2039: End point off conic by 2.278815E-05 at D 53.
WARNING 2039: Messages regarding conic end points suppressed.
WARNING 2265: Messages regarding invalid start point suppressed.

*** Entity type: 110

-- 1110 lines averaging 1.498966E-01 units --

*** Entity type: 124

615 transformation matrices, 615 non-zero translations.
NOTE 2341: 615 matrices contain translation information.

*** Entity type: 212

45 text strings in data file.
Average text aspect ratio in file is 0.9085386.
Minimum text aspect ratio in file is 0.8412499.
Maximum text aspect ratio in file is 0.9366667.

FONTS USED IN FILE

FONT	COUNT	NAME
1	45	Default ASCII Style

*** Entity type: 230

NITPICK 2076: Entity does not have Annotation flag set at D 4655.
NITPICK 2076: Entity does not have Annotation flag set at D 4667.
NITPICK 2076: Entity does not have Annotation flag set at D 4679.
NITPICK 2076: Messages regarding entity use (annotation) suppressed.

*** Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 5141.
Drawing at D 5141 contains 1 views.
Drawing at D 5141 contains 0 annotation entities.

*** Entity type: 406

*** Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D 1.
Scale of view at D 1 is 1.000000E+00.
Orthographic View entity at D 1 has 0 clipping planes specified.
XMIN = Not Set XMAX = Not Set
YMIN = Not Set YMAX = Not Set
ZMIN = Not Set ZMAX = Not Set

*** Message Summary ***

2007: 78 Mathematical discontinuities.
2015: 459 Mathematically incorrect definitions.
2016: 41 Invalid entity use flag.

*** Error Summary ***

0 fatal errors
0 severe errors
78 errors
459 warnings
0 cautions
42 nitpicks
40 notes

*** End of Analysis of q014.igs ***

10.1.2 Parser Log - IGESWorks

IGES/Works v1.4.1
International TechneGroup Incorporated
Validation Logfile

Date: May 16, 1994
Model: q014

***** Validation Parameters *****

TOLERANCE CONFIGURATION VALUES

```
-----  
ZERO_TOL = 1.000000e-13  
MODEL_SPACE_PNT_COIN_TOL = 1.000000e-03  
PARM_SPACE_PNT_COIN_TOL = 1.000000e-08  
ISO_PARM_CURVE_TOL = 1.000000e-08  
NON_CONV_TOL = 1.000000e-12  
KNOT_COIN_TOL = 1.000000e-10  
SAME_INTER_TOL = 1.000000e-12  
PARALLEL_LINES_TOL = 1.000000e-07  
ANGLE_COIN_TOL = 1.000000e-05  
PNT_PROJ_TOL = 1.000000e-07  
COLIN_TOL = 1.000000e-07  
COPLANAR_TOL = 1.000000e-08  
ZERO_NORMAL_TOL = 1.000000e-06  
SAME_TANGENT_TOL = 1.000000e-04  
SAME_CURVATURE_TOL = 1.000000e-04  
SAME_DERIVATIVE_TOL = 1.000000e-03  
MODEL_LINEAR_APPROX_TOL = 2.220446e-16
```

***** Entity Listing Before Validation *****

Count	Type	Form	Description
----	----	----	-----
105	100	0	Circular Arc
39	102	0	Composite Curve
615	104	1	Ellipse
1110	110	0	Line
615	124	0	Transformation Matrix
45	212	0	General Note (Simple)
39	230	0	Section Area (Standard Fill)
1	404	0	Drawing (form 0)
1	406	16	Property (Drawing Size)
1	410	0	View

2571 - Number of entities in selection list

***** Entity Validation *****

*** Warning (IEVM_LABEL_NOT_RJ) ***

(DE 1, TF 410:0) The Label Display field in this entity's DE section was not set for right justification.

Action taken: The Label Display field has been set to be right-justified.

*** Warning (IEVM_LABEL_NOT_RJ) ***

(DE 3, TF 110:0) The Label Display field in this entity's DE section was not set for right justification.

Action taken: The Label Display field has been set to be right-justified.

<<<< PART OF LOG FILE REMOVED HERE >>>>

*** Warning (IEVM_BAD_VECTOR_124) ***

(DE 17, TF 124:0) This Transformation Matrix entity (124) has a column that is not a unit vector within the stated tolerance.

Action taken: All vectors have been unitized.

*** Warning (IEVM_BAD_START_POINT_104) ***

(DE 19, TF 104:1) The start point for this Conic Arc entity (104) is not on the conic. Start point value found was -1.2471290e-01, -7.2043490e-02.

Action taken: The start point has been moved 1.1368724e-05 units, from -1.2471290e-01, -7.2043490e-02 to -1.2470153e-01, -7.2043490e-02.

<<<< PART OF LOG FILE REMOVED HERE >>>>

*** Warning (IEVM_NON_CONTINUOUS_102) ***

(DE 4653, TF 102:0) This Composite Curve entity (102) is not continuous within the tolerance. The terminate point of the first curve does not equal the start point of the next curve.

Action taken: The curve was made continuous by the following actions. DE 4649 was reversed. DE 4651 was reversed.

<<<< PART OF LOG FILE REMOVED HERE >>>>

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected		Number of Uncorrected	
				Warnings	Errors	Warnings	Errors
Global Section		1	1	0	0	0	0
100	0	105	0	105	0	0	0
102	0	39	0	0	39	0	0
104	1	615	0	615	550	0	0
110	0	1110	0	1110	0	0	0
124	0	643	28	615	602	0	0
212	0	45	0	45	0	0	0
230	0	39	0	39	0	0	0
404	0	1	0	1	0	0	0
406	16	1	1	0	0	0	0
410	0	1	0	1	0	0	0
Totals:		2600	30	2531	1191	0	0

The following message was issued and suppressed 2526 times:

The Label Display field in this entity's DE section was not set for right justification.

The following message was issued and suppressed 34 times:

This Composite Curve entity (102) is not continuous within the stated tolerance. terminate point of the first curve does not equal the start point of the next cu

The following message was issued and suppressed 264 times:

The start point for this Conic Arc entity (104) is not on the conic. Start poin value found was %.7e, %.7e.

The following message was issued and suppressed 276 times:

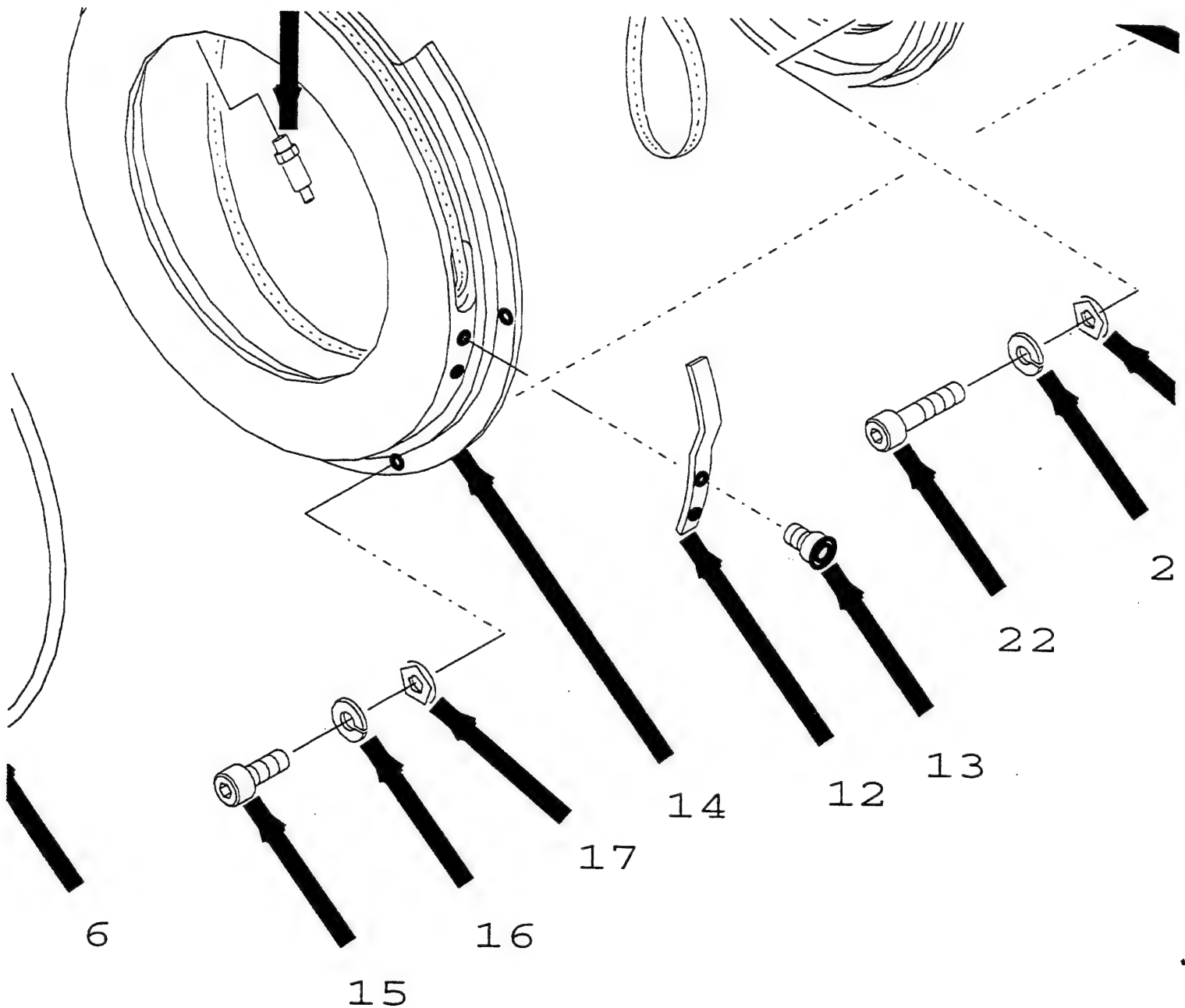
The end point for this Conic Arc entity (104) is not on the conic. Start point found was %.7e, %.7e.

The following message was issued and suppressed 597 times:

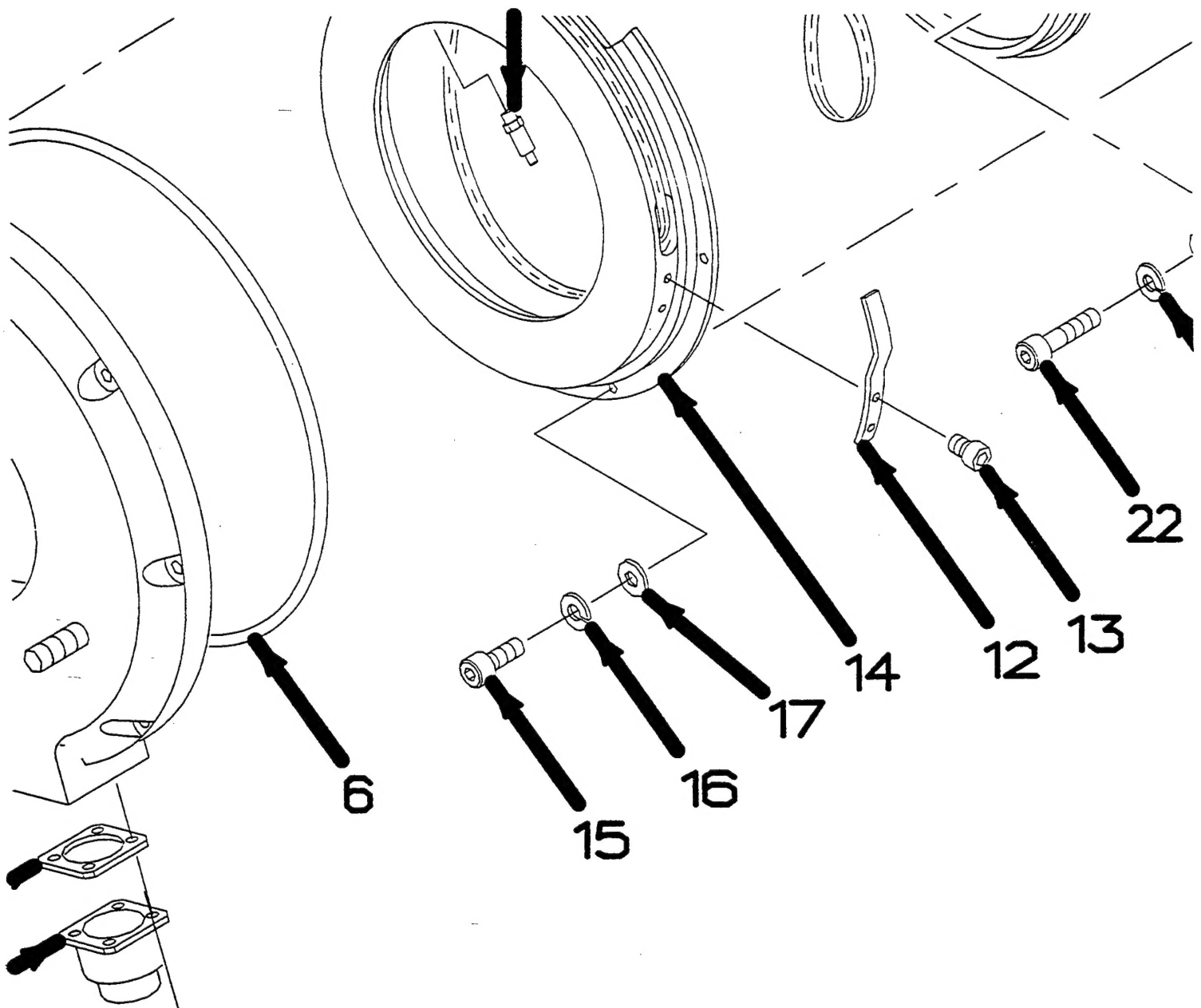
This Transformation Matrix entity (124) has a a column that is not a unit vector within the stated tolerance.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX_MESSAGE' configuration parameter.

10.1.3 Output CADLeaf

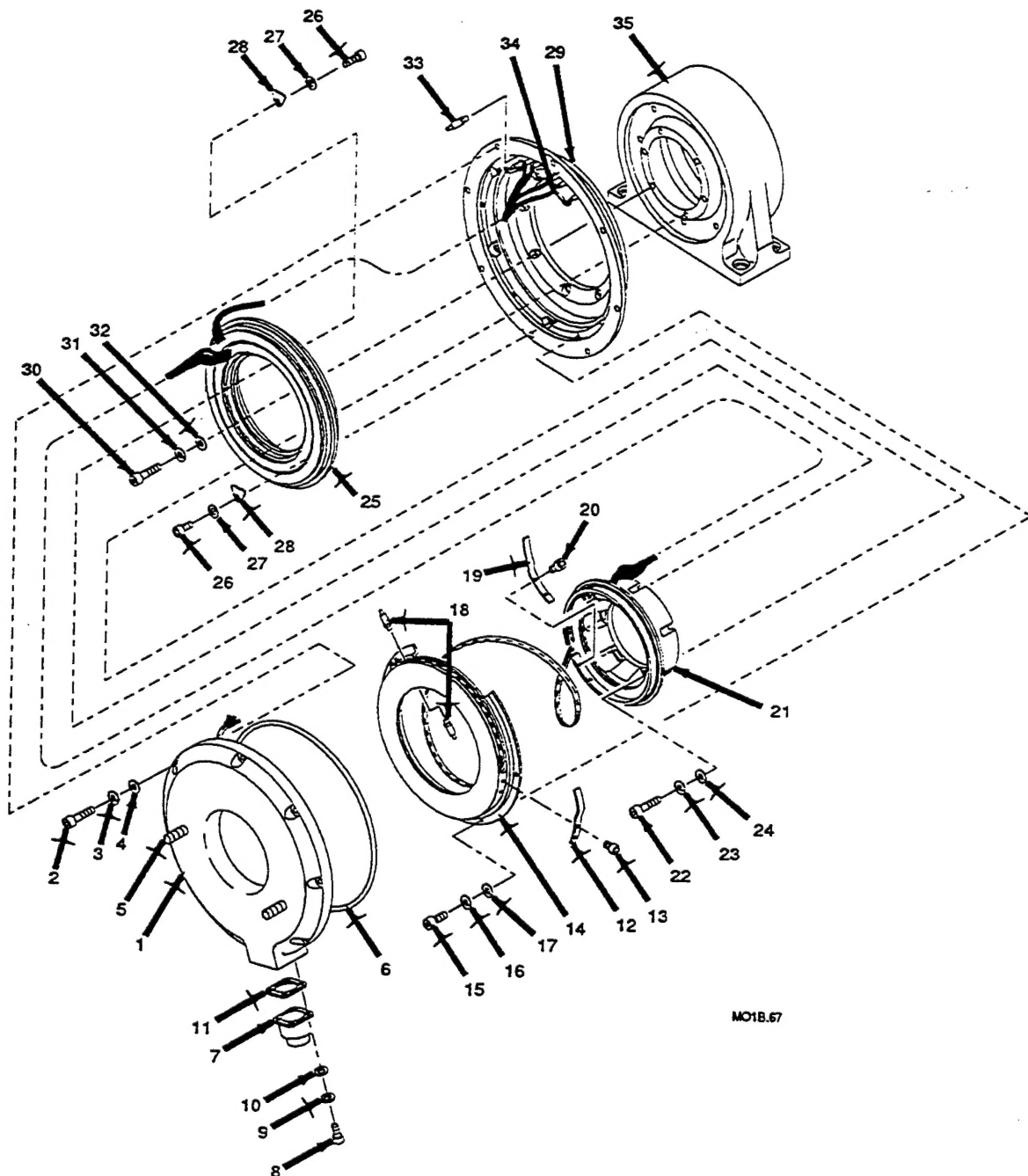


10.1.4 Output IGESView



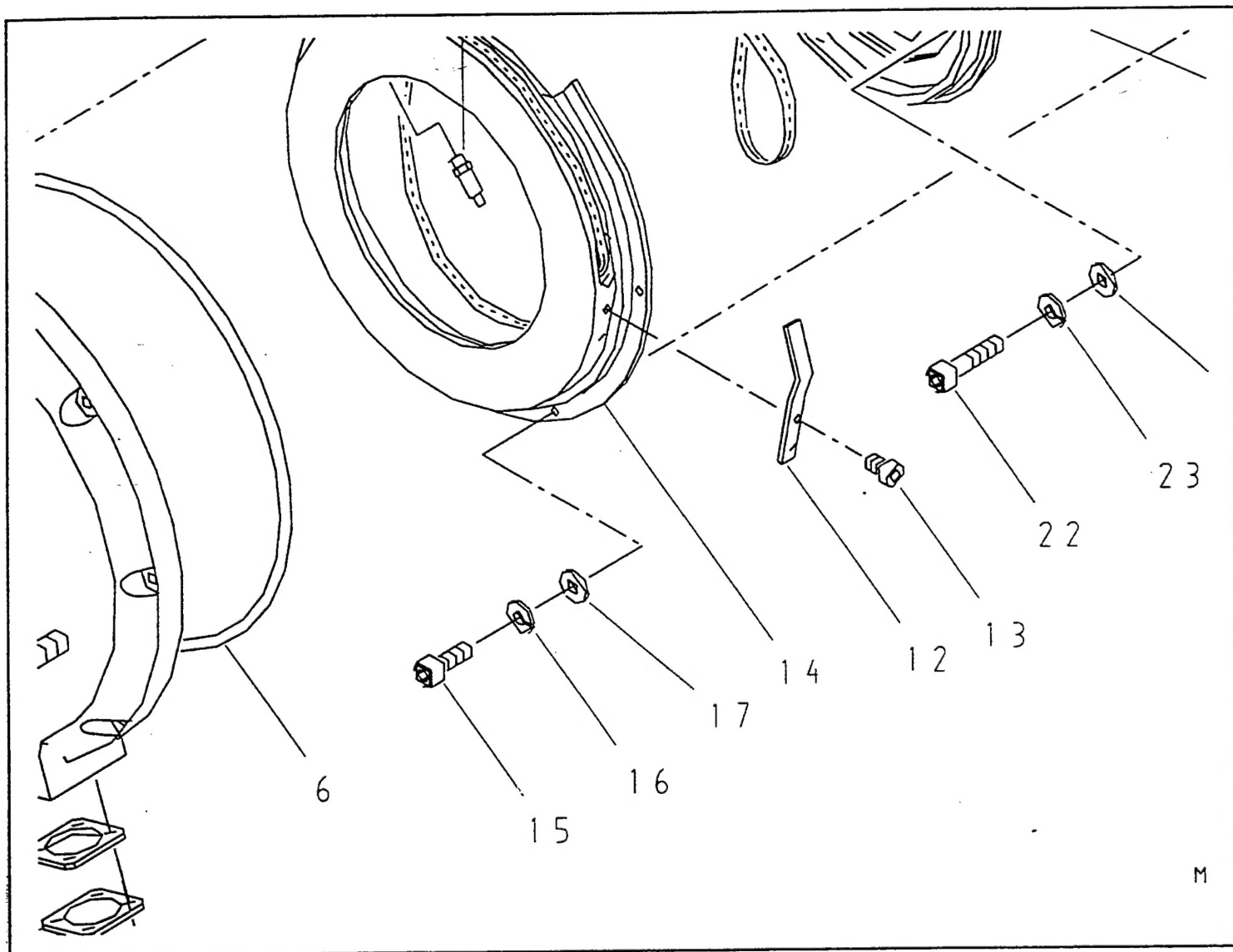
10.1.5 iges2draw/IslandDraw

10.1.5.1 Output - Complete Drawing



SCALE 0.2 % PLOTTED AT 100% TYPE PER SPEC

10.1.5.2 Output - Detail



10.1.6 Output Preview

